Exhibit 15

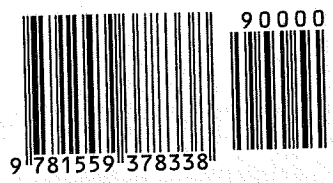
The IEEE Standard Dictionary of Electrical and Electronics Terms

Sixth Edition

Standards Coordinating Committee 10, Terms and Definitions
Jane Radatz, Chair

This standard is one of a number of information technology dictionaries being developed by standards organizations accredited by the American National Standards Institute. This dictionary was developed under the sponsorship of voluntary standards organizations, using a consensus-based process.

ISBN 1-55937-833-6



Introduction

Since the first edition in 1941 of the American Standard Definitions of Electrical Terms, the work now known as IEEE Std 100, The IEEE Standard Dictionary of Electrical and Electronics Terms, has evolved into the unique compendium of terms that it is today.

The current edition includes all terms defined in approved IEEE standards through December 1996. Terms are categorized by their technical subject area. They are also associated with the standards or publications in which they currently appear. In some cases, terms from withdrawn standards are included when no current source can be found. Earlier editions of IEEE Std 100 included terms from sources other than IEEE standards, such as technical journals, books, or conference proceedings. These terms have been maintained for the sake of consistency and their sources are listed with the standards in the back of the book.

The practice of defining terms varies from standard to standard. Many working groups that write standards prefer to work with existing definitions, while others choose to write their own. Thus terms may have several similar, although not identical, definitions. Definitions have been combined wherever it has been possible to do so by making only minor editorial changes. Otherwise, they have been left as written in the original standard.

Users of IEEE Std 100 occasionally comment on the surprising omission of a particular term commonly used in an electrical or electronics field. This occurs because the terms in IEEE Std 100 represent only those defined in the existing or past body of IEEE standards. To respond to this, some working groups obtain authorization to create a glossary of terms used in their field. All existing, approved standard glossaries have been incorporated into this edition of IEEE Std 100, including the most current glossaries of terms for computers and power engineering.

IEEE working groups are encouraged to refer to IEEE Std 100 when developing new or revised standards to avoid redundancy. They are also encouraged to investigate deficiencies in standard terms and create standard glossaries to alleviate them.

The sponsoring body for this document was Standards Coordinating Committee 10 on Definitions (SCC10), which consisted of the following members:

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When the IEEE Standards Board approved this standard on 10 December 1996, it had the following membership.

How to use this dictionary

The terms defined in this dictionary are listed in *letter-by-letter* alphabetical order. Spaces are ignored in this style of alphabetization, so *cable value* will come before *cab signal*. Descriptive categories associated with the term in earlier editions of IEEE Std 100 will follow the term in parentheses. New categories appear after the definitions (see Categories, below), followed by the designation of the standard or standards that include the definition. If a standard designation is followed by the letter s, it means that edition of the standard was superseded by a newer revision and the term was not included in the revision. If a designation is followed by the letter w, it means that edition of the standard was withdrawn and not replaced by a revision. A bracketed number refers to the non-IEEE standard sources given in the back of the book.

Acronyms and abbreviations are no longer listed in a separate section in the dictionary; rather, they are incorporated alphabetically with other terms. Each acronym or abbreviation refers to its expanded term, where it is defined. Acronyms and abbreviations for which no definition was included in past editions have been deleted from this edition of IEEE Std 100.

Abstracts of the current set of approved IEEE standards are provided in the back of the book. It should be noted that updated information about IEEE standards can be obtained at any time from the IEEE Standards World Wide Web site at http://standards.ieee.org/.

Categories

The category abbreviations that are used in this edition of IEEE Std 100 are defined below. This information is provided to help elucidate the context of the definition. Older terms for which no category could be found have had the category "Std100" assigned to them. Note that terms from sources other than IEEE standards, such as the National Electrical Code® (NEC®) or the National Fire Protection Association, may not be from the most recent editions; the reader is cautioned to check the latest editions of all sources for the most up-to-date terminology.

Categ

AE
AHDL
AMR
AP
ATL
BA
BT
C
CAS
CE
CHM
COM
CS
DA
DEI
DESG
DIS
ED
EDU
EEC
ELM
EM
EMB
EMC
GRS
GSD
IA
IE
II
IM
IT
IVHS
LEO
LM
MAG
MIL
MM
MTT
NEC
NESC
NFPA
NI
NIR
NN
NPS
ODM
OE
PA
PE
PEL
PQ
PSPD
PV
QUL
R
RA
REM

A

AAAC Concentric-lay-stranded all aluminum alloy conductor. (PE/T&D) 524-1992

***aa* auxiliary switch** *See:* auxiliary switch; *aa* contact.

AAC Concentric-lay-stranded all aluminum conductor. (PE/T&D) 524-1992

***aa* contact** A contact that is open when the operating mechanism of the main device is in the standard reference position and that is closed when the operating mechanism is in the opposite position. *See also:* standard reference position. (PE/SWG) C37.100-1992

AACSR *See:* aluminum alloy conductor, steel reinforced.

***A* and *R* display (radar)** An *A*-display, any portion of which may be expanded. *See also:* navigation. (AE) 686-1982s

AAU *See:* alternate access unit.

***a* auxiliary switch** *See:* auxiliary switch; *a* contact.

abampere The unit of current in the centimeter-gram-second (cgs) electromagnetic system. The abampere is 10 A. (Std100) 270-1966w

abandoned call (telephone switching systems) A call during which the calling station goes on-hook prior to its being answered. (COM) 312-1977w

ABASIC A dialect of the BASIC programming language. (C) 610.13-1993

***A* battery** A battery designed or employed to furnish current to heat the filaments of the tubes in a vacuum-tube circuit. *See also:* battery. (EEC/PE) [119]

ABBET application An end-use program constructed using one or more ABBET components. (ATL) 1226-1993

ABBET component An implementation of the services defined in an IEEE ABBET component standard. (ATL) 1226-1993

ABBET implementation The installation and utilization of one or more ABBET applications. (ATL) 1226-1993

ABBET layer A natural grouping to the ABBET services that is recognized by the ABBET layer model. (ATL) 1226-1993

abbreviated dialing (telephone switching systems) A feature permitting the establishment of a call with an input of fewer digits than required under the numbering plan. (COM) 312-1977w

abbreviated ringing A short variable burst of power ringing that is required to establish a temporary communications path in certain types of network pair gain equipment. The switch is instructed, via trunk signals, to output this abbreviated ringing. (AMR) 1390-1995

Abbreviated Test Language for All Systems (ATLAS) (1) The signal-oriented semantics of ATLAS are used by ABBET for definitions of test procedures in Ada. (ATL) 1226-1993

(2) A standard abbreviated English language used in the preparation and documentation of test procedures or test programs that can be implemented either manually or with automatic or semiautomatic test equipment. *Note:* This language is specified in IEEE Std is 716-1995. (ATL) 1232-1995

(3) A test language used by test engineers in controlling automatic test equipment. (C) 610.13-1993

(4) A standard abbreviated English language used in the preparation and documentation of test procedures or test programs that can be implemented either manually or with automatic or semiautomatic test equipment. The ATLAS language is defined in IEEE Std 416-1984, *IEEE Standard ATLAS Test Language,* which includes the material previously published in two separate volumes, namely, a general or functional definition and a formal definition written in a metanotation. (ATL) 771-1984s

abbreviation A shortened form of a word or expression. *See also:* functional designation; graphic symbol; letter combination; mathematical symbol; reference designation; symbol for a quantity; symbol for a unit. (GSD) 267-1966

abend *See:* abnormal end.

ability A mode that a device can advertise using Auto-Negotiation. For modes that represent a type of data service, a device shall be able to operate that data service before it may advertise this ability. A device may support multiple abilities. (C/LM) 802.3u-1995

abnormal decay (charge-storage tubes) The dynamic decay of multiply written, superimposed (integrated) signals whose total output amplitude changes at a rate distinctly different from that of an equivalent singly written signal. *Note:* Abnormal decay is usually very much slower than normal decay and is observed in bombardment-induced conductivity type of tubes. *See also:* charge-storage tube. (ED) 158-1962w

abnormal end Termination of a process prior to completion. *Synonym:* abend. *See also:* abort; exception. (C) 610.12-1990

abnormal glow discharge (gas tube) The glow discharge characterized by the fact that the working voltage increases as the current increases. *See also:* discharge. (Std100) [31]

abnormal preamble A preamble that does not match the synchronization pattern resulting in a packet error. (C) 610.7-1995

abort (1) (software) To terminate a process prior to completion. *See also:* abend; exception. (C) 610.12-1990

(2) To terminate the transmission of a frame before it has been completely transmitted. (EMB) 1073.3.1-1994, 1073.4.1-1994

abort completion point A point at which the execution of an aborted construct must complete. (C/PA) 1003.5b-1995

abort deferred operation An operation that is allowed to complete without being affected by abortion. Certain operations are required by the Ada language to be abort deferred. It is implementation defined whether other operations defined by this standard are abort deferred. (C/PA) 1003.5b-1995

abort sequence A sequence transmitted by an originating ring station that terminates the transmission of a frame prematurely. It also causes the ring station receiving this frame to terminate the frame's reception. (C/LM) 8802-5-1995

above threshold firing time (microwave switching tubes) (nonlinear, active, and nonreciprocal waveguide components) The time to establish an above-threshold discharge in the gas tube after the application of radio frequency power. This time delay is responsible for the spike in the leading edge of the output leakage waveform. *See also:* duplexer; gas tube. (MTT) 457-1982w

abrupt junction (nonlinear, active, and nonreciprocal waveguide components) (semiconductor) A semiconductor crystal having an *n*-region containing a near-constant net concentration of donor impurities adjoining a *p*-region with a near-constant net concentration of acceptors; used primarily in microwave frequency multipliers, dividers, and parametric circuits. (MTT) 457-1982w

ABS (cable systems in power generating stations) Conduit fabricated from acrylonitrile-butadiene-styrene. (PE/SUB) 422-1977, 525-1992

ABSBH load *See:* average busy season busy-hour load.

absolute accuracy Accuracy as measured from a reference that must be specified. (EEC/IA) [61], [74]

absolute address (1) (software) An address that is permanently assigned to a device or storage location and that identifies the device or location without the need for translation or calculation. *Synonyms:* explicit address; specific address. *Contrast:* relative address; relocatable address; symbolic address. *See also:* absolute assembler; absolute code; absolute instruction; absolute loader. (C) 610.12-1990